Particulate Health Effects Research Update

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Anticipated Acute Health Effects Based on the Literature

Increased cardio-respiratory mortality

Increased respiratory visits for asthma, respiratory complaints

Decreases in pulmonary function

Measurable cardiac changes (HR, etc)

Acute Health Effects Observed

Statistically significant association between URI ratios and PM10 weekly maximums from Bosnia

High PM exposures resulted in increased visits for URI with a few day lag in Kuwait (not OEF/OIF)

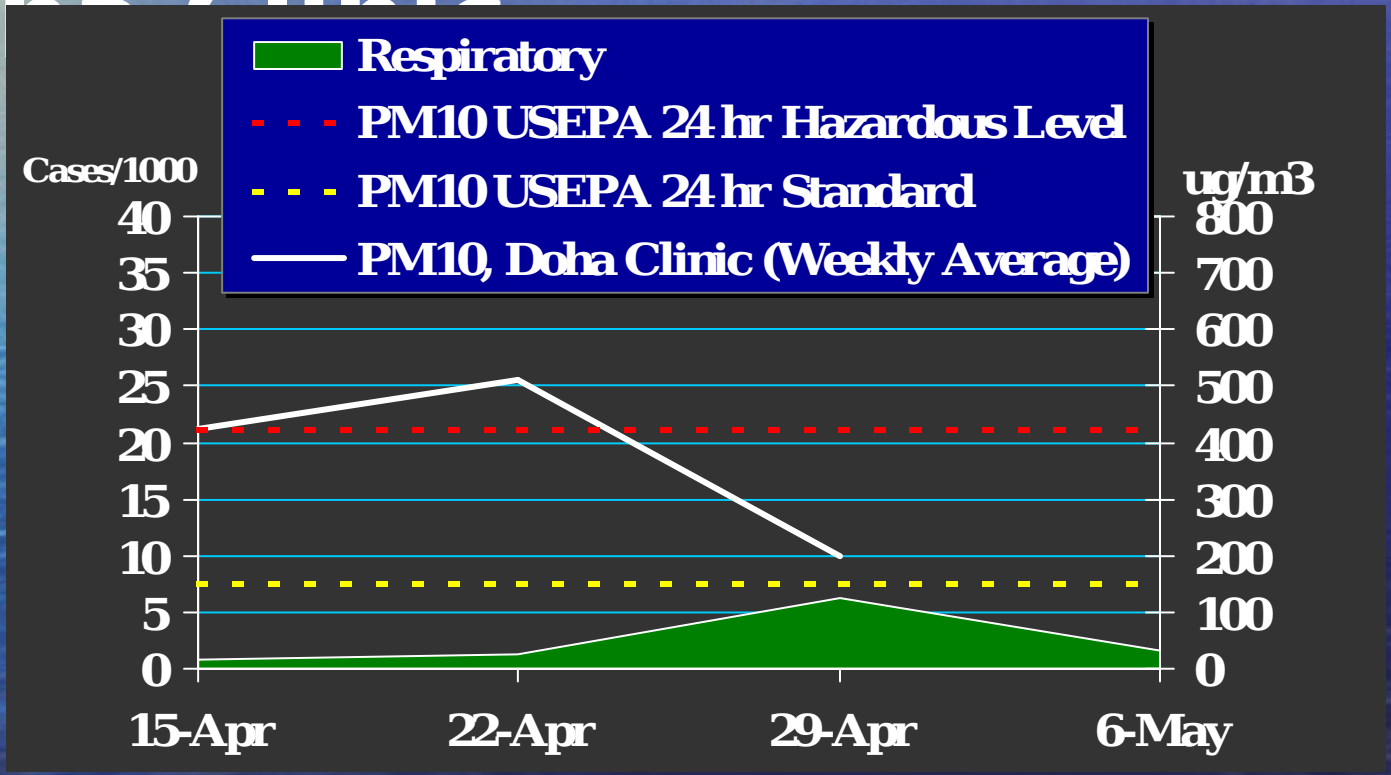
Acute Health Effects Observed

Recent analysis/logistic regression indicates that PM level has little impact on weekly respiratory DNBI

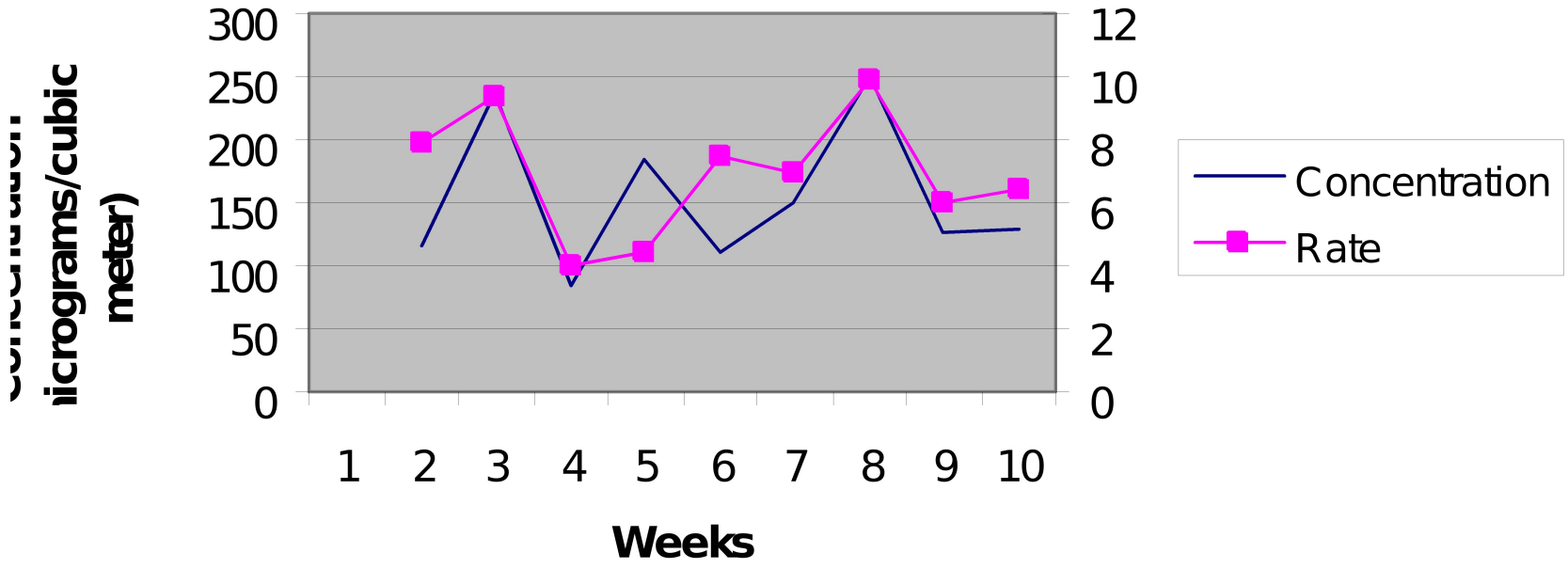
Cross-sectional pulmonary function tests have not indicated widespread findings

Use of specific ICD-9 codes should provide better information

PM10 and Respiratory Illness
Doha Clinic



PM Exposure Concentrations and Respiratory Disease Rates for Site F



Anticipated Long-term Health Effects Based on the Literature

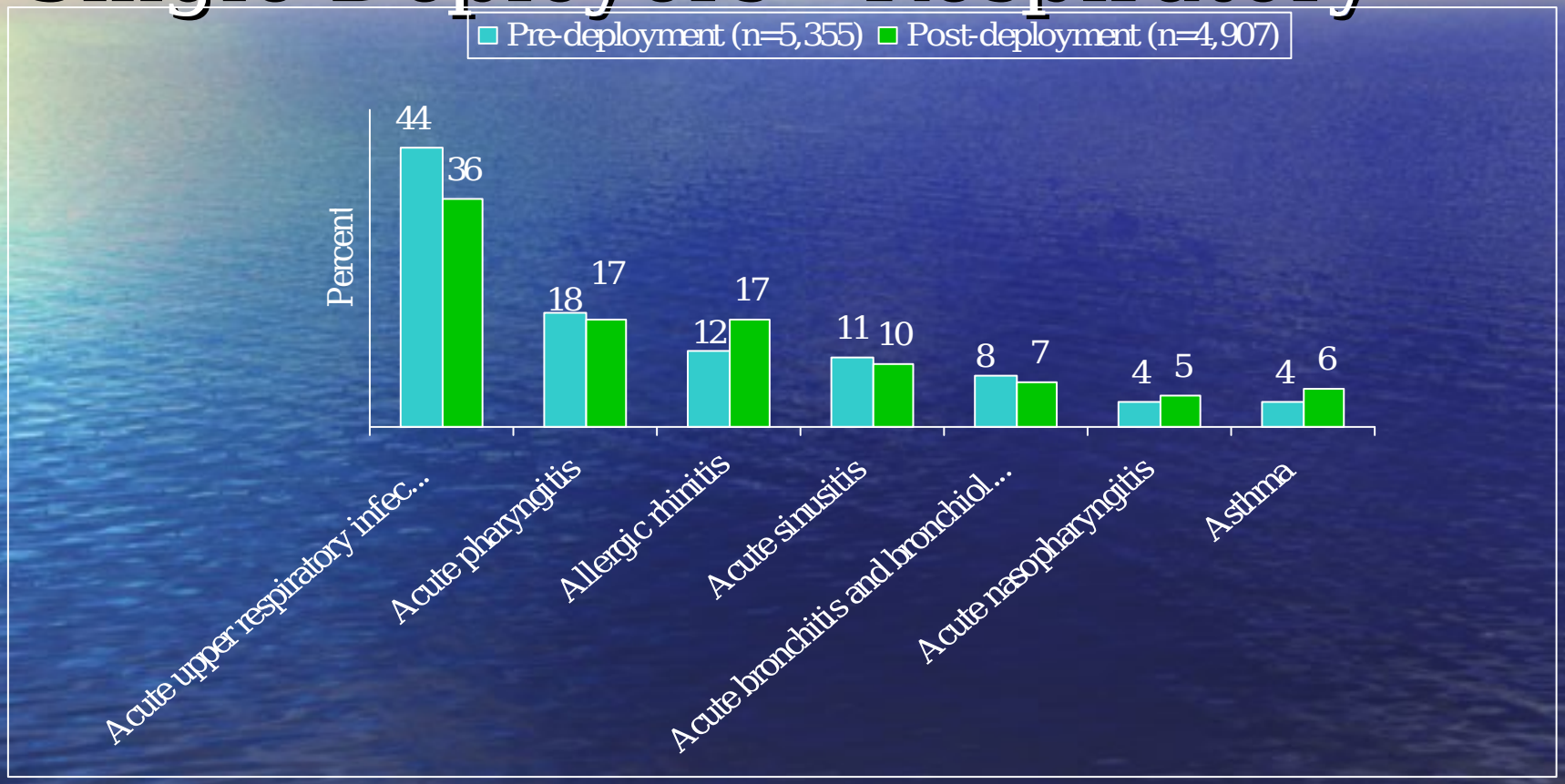
Increased Cardio respiratory Mortality

Potential acceleration of heart disease

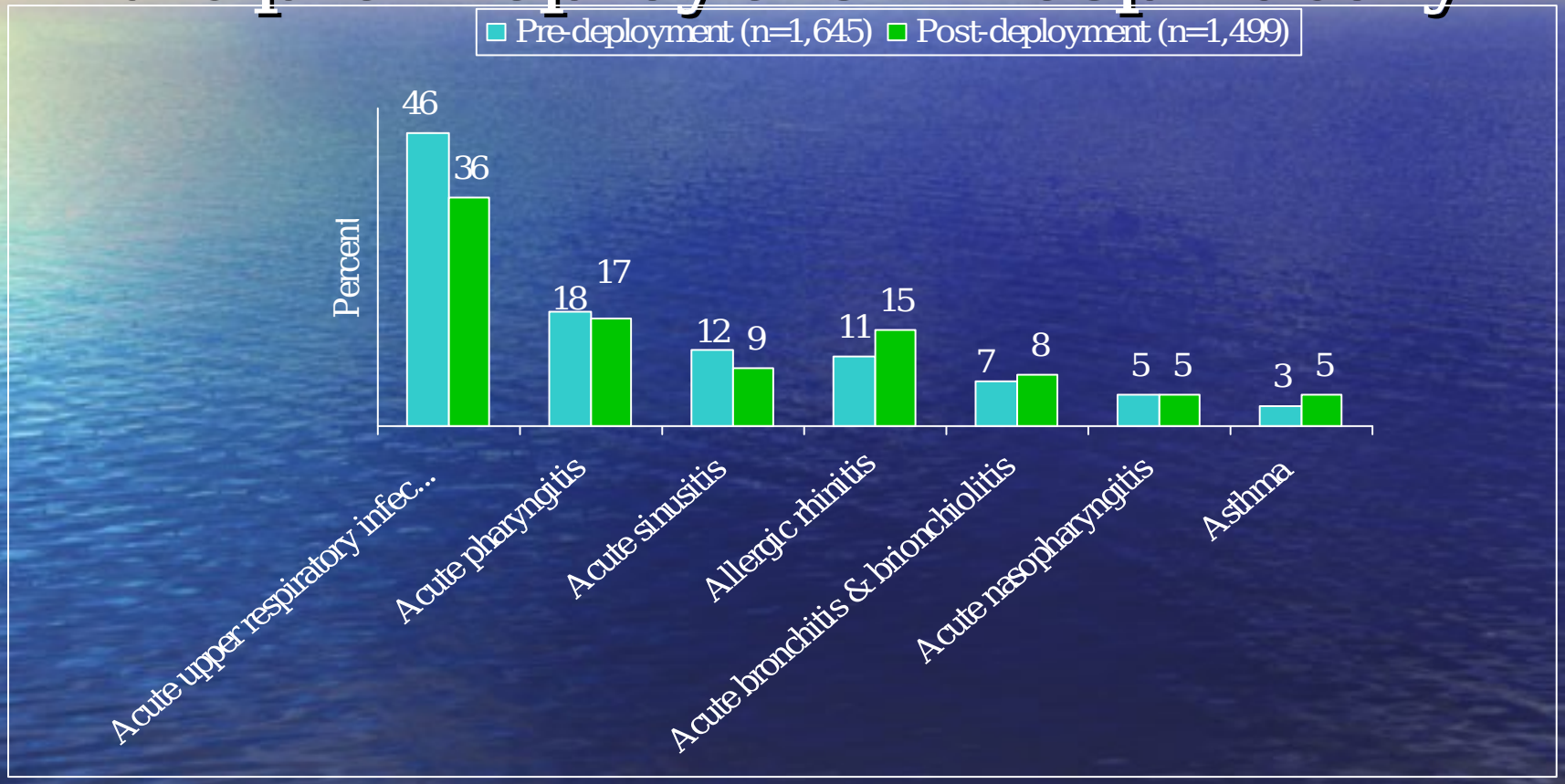
Chronic obstructive pulmonary disease

- Overall, no unusual trends in patients from PGW 1, OEF and OIF
- Medical evacs for chest pain
- No significant increase in respiratory/cardiovascular visits pre deployment versus post deployment
- No significant increases in respiratory/cardiovascular visits with multiple deployments

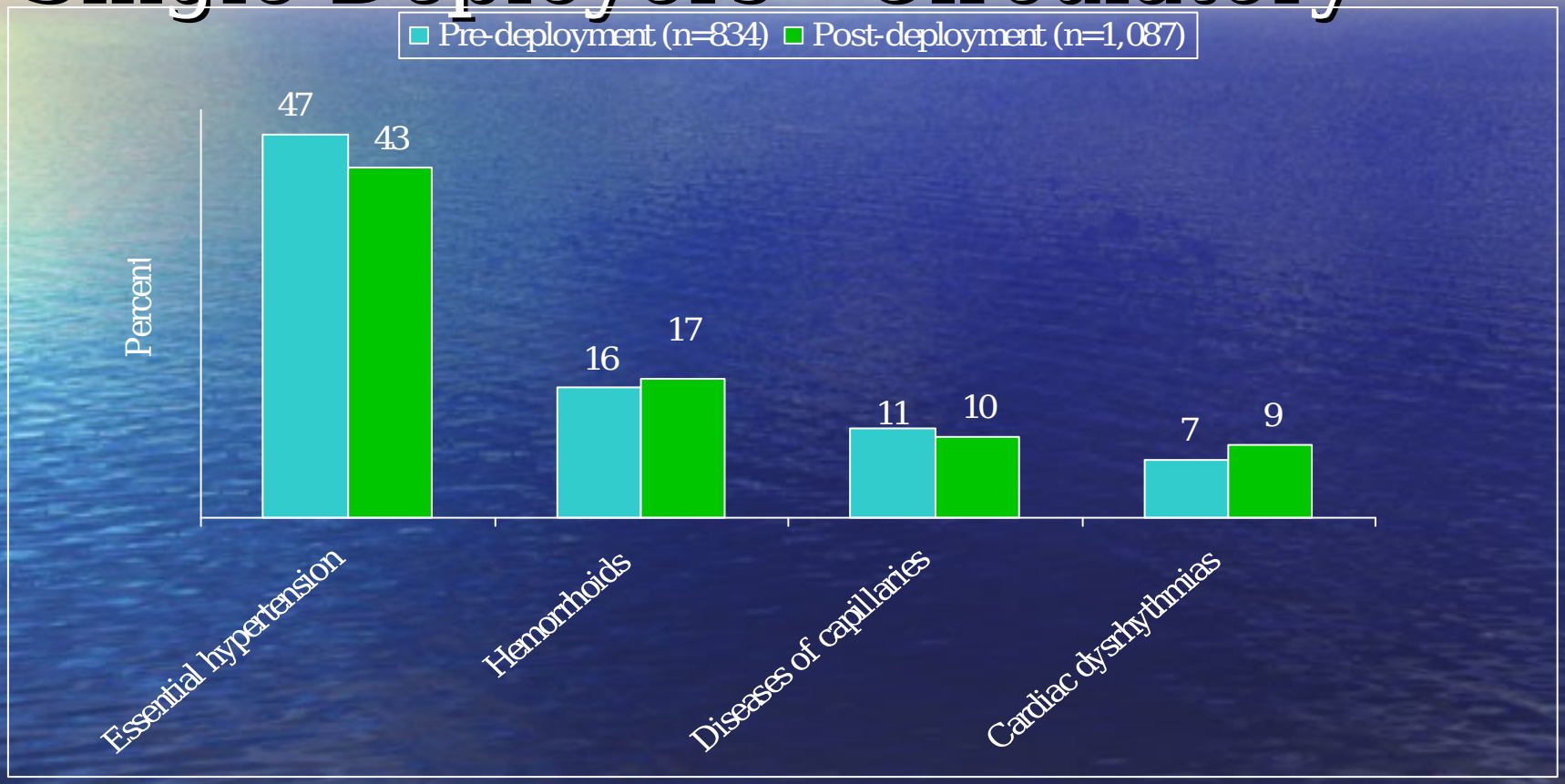
Top Three-Digit Primary Outpatient Diagnoses among Single Deployers—Respiratory



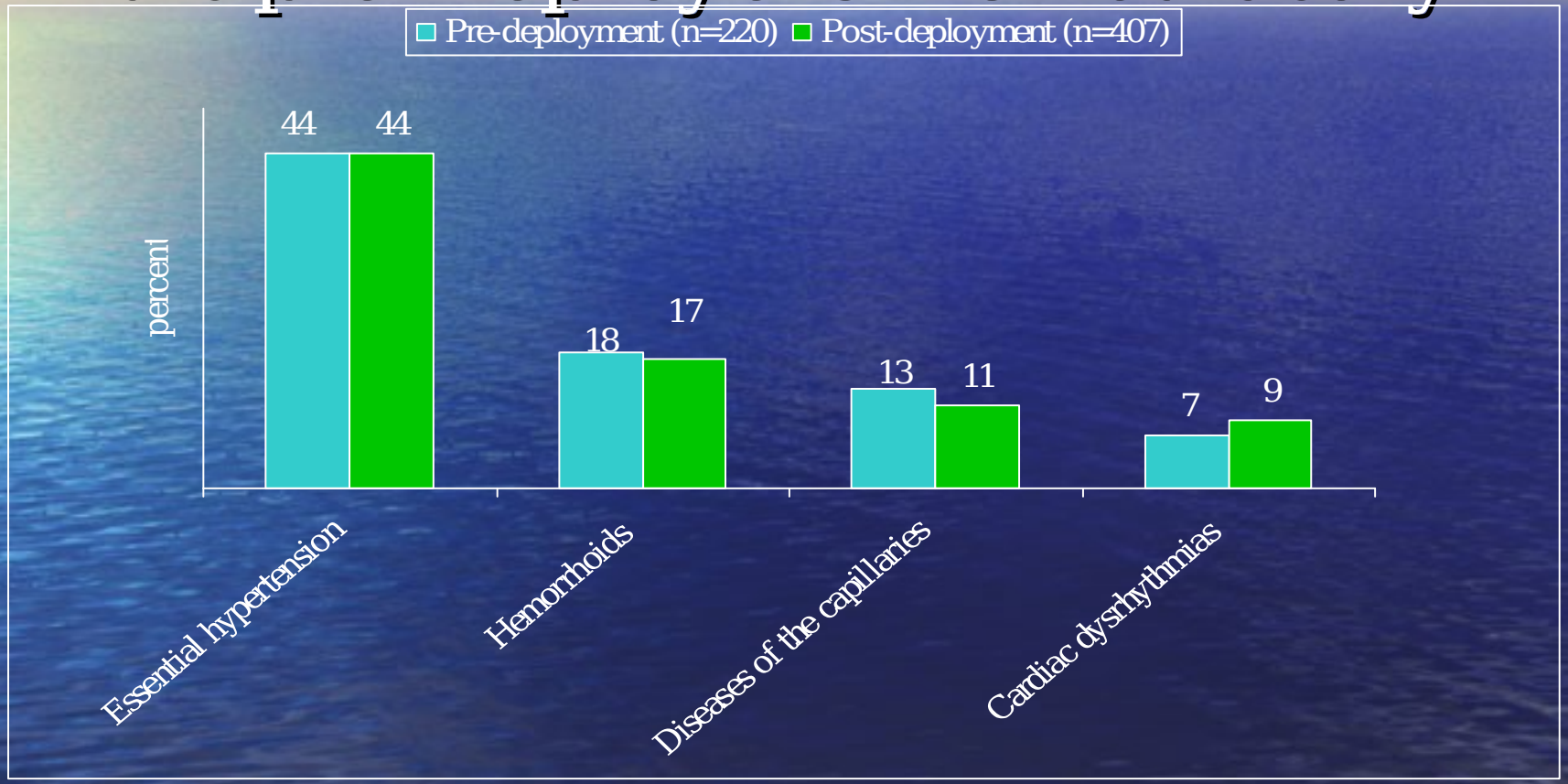
Top Three-Digit Primary Outpatient Diagnoses among Multiple Deployers—Respiratory



Top Three-Digit Primary Outpatient Diagnoses among Single Deployers—Circulatory



Top Three-Digit Primary Outpatient Diagnoses among Multiple Deployers—Circulatory



Ongoing Efforts

- Enhanced PM Surveillance linked to analysis of coded visits at these sites for outcomes of interest
- Analysis of multiple deployment trends by specific condition

Respiratory Health Assessment Team

- Protocol for pre/during/post assessment still at IRB
- In-theatre component may be too difficult to sell without other findings
- Several units evaluated in theatre with PFTs are beind followed with repeat post deployment

Yellow Dust Activity Restriction Recommendations

Heavy exertion

- Walking hard surface at 3.5 mph ≥ 40 lb load
- Walking loose sand at 2.5 mph with load
- Field assaults
- Running

Dust Concentration μg/m³	Level of Health Concern	Personnel at High Risk	All Others
0-50	Good		
51-100	Moderate	Consider reducing prolonged or heavy exertion	
101-150	Unhealthy for Sensitive Groups	Reduce prolonged or heavy exertion	
151-200	Unhealthy	Avoid prolonged or heavy exertion	Reduce prolonged or heavy exertion
201-300	Very Unhealthy	Avoid all physical activity outdoors	Avoid prolonged or heavy exertion
301-500	Hazardous	Remain indoors and keep activity levels low	Avoid all physical activity outdoors.

Personnel at High Risk:

- Young children
- Elderly
- With heart disease
- With lung disease such as asthma

Commanders should:

Identify Soldiers at high risk and take additional protective measures

Include Yellow Dust conditions in risk assessment for training events

Current dust concentration at your location is also available at 18th MEDCOM website: http://www.seoul.amedd.army.mil

Predictions for Yellow Dust in the Korean peninsula will be notified to the USFK public through command channels and Armed Forces Network Korea. Contact DCSFHP at 736-3025 (duty hours) and 011-9179-1645 (other times) for specific dust concentrations at your location during

For information on the Health Effects Research Workgroup, Proceedings of the Meeting, and Presentations from the Symposium, go to:

http://chppm-www.apgea.army.mil/doem/EMP.aspx

CHPPM HOME/DOEM/ Program 64